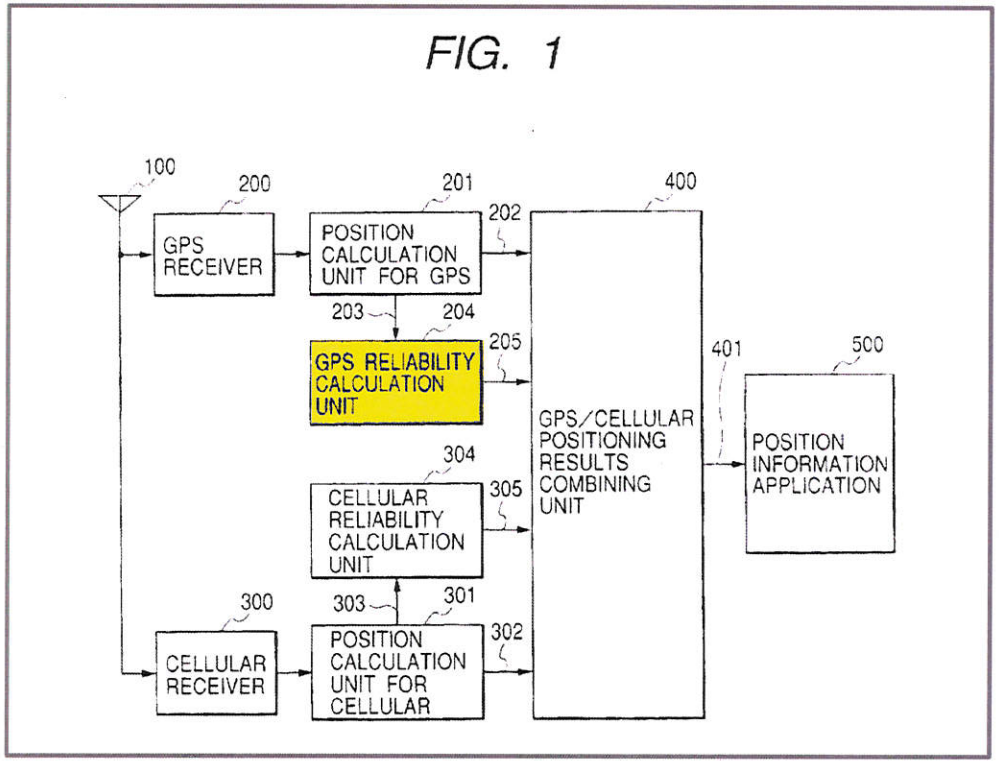
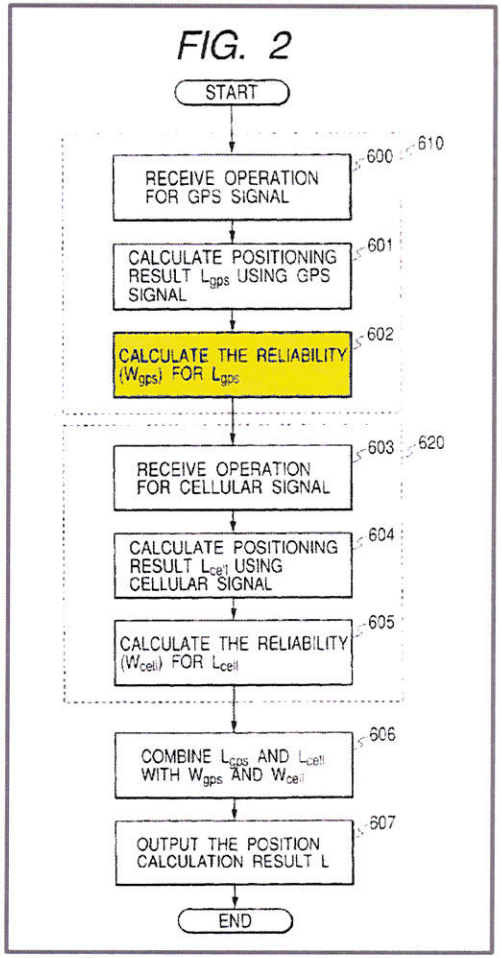
'292 Patent: "GPS reliability calculation means" (1)

No.	Term	Maxell	Huawei
9	"GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result" ('292 Patent, Claim 1)	**Function:** calculating GPS positioning reliability based on the GPS-based position result **Structure:** A GPS reliability calculation unit 204 and/or components within a mobile handset that perform processing functions, such as, a CPU programmed to execute processing in accordance with the algorithm set forth in the specification, a processor that performs GPS reliability calculation processes described in Fig. 2 (block 602) and corresponding recitations in the specification as provided herein, or equivalents thereof. See e.g., (2:60-65; block 602 in Fig. 2), (3:38-4:3), (5:3-7).	**Function:** calculating GPS positioning reliability based on the GPS-based position result **Structure:** GPS reliability calculation unit 204, which is insufficient structure because the specification does not disclose the necessary algorithm or flowchart, which renders the term **indefinite**

'292 Patent: "GPS reliability calculation means" (1)



'292 Patent, Fig. 1



'292 Patent, Fig. 2

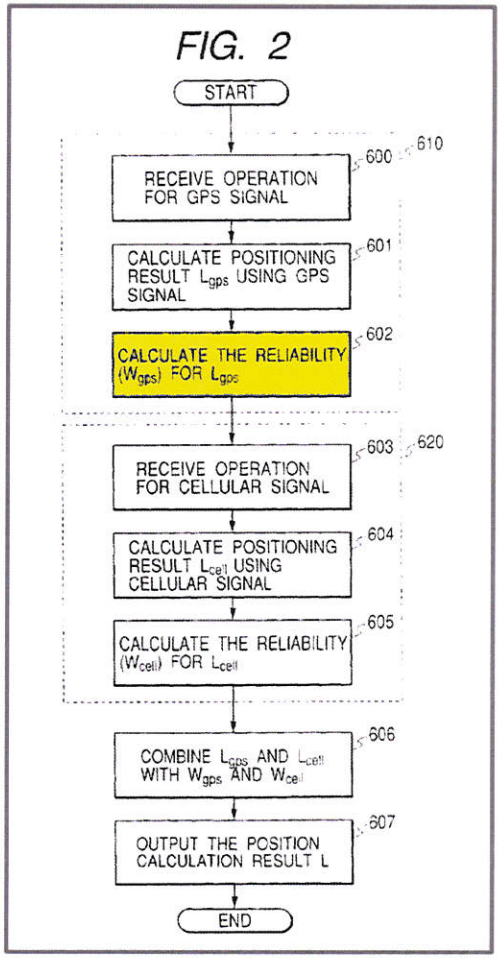
'292 Patent: "GPS reliability calculation means" (1)

signals **601**. The mobile handset also calculates the reliability (W_{gps}) for L_{gps} **602** using the number of GPS satellites used in calculating L_{gps} and the received signal quality (such as a signal-to-noise ratio in decibels) for the signals from each GPS satellite. These GPS-related processes are labeled **610**.

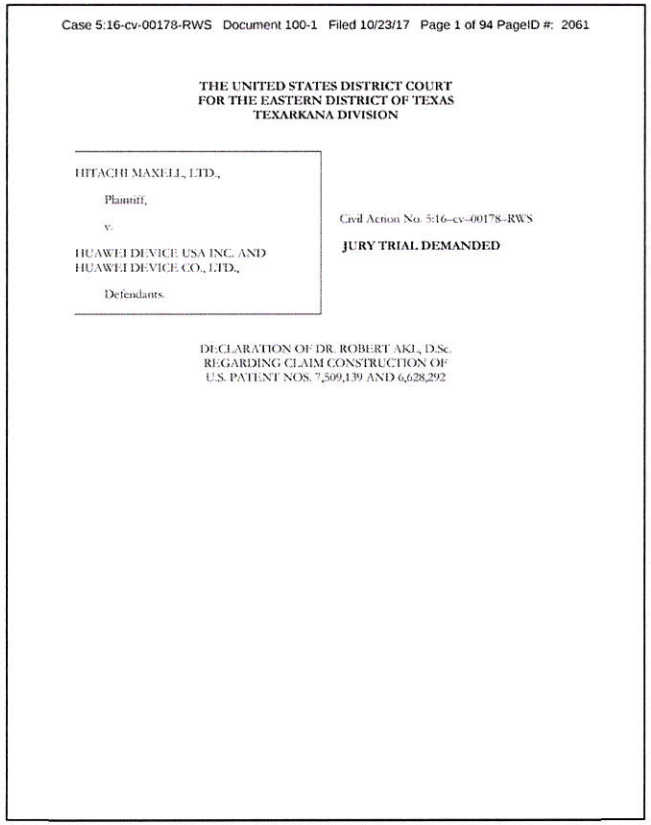
'292 Patent, 2:60-65

The GPS reliability calculation unit **204** calculates the reliability of the GPS-based position calculation result **205** based on the information about the reliability input from the position calculation unit for GPS **201**, and the unit **204** outputs the reliability **205** to the GPS/cellular positioning results combining unit **400**. The GPS reliability calculation unit **204** calculates the reliability in a manner in which, for example, the number of GPS satellites used when the position calculation unit for GPS **201** calculated the handset position is used as the reliability **205**. Alternatively, the quality of the signals received from the GPS satellites used when the position calculation unit for GPS **201** calculated the handset position might be used. In this case, the signal of the worst quality received from a GPS satellite is considered influential as a determinative factor of the reliability of the position calculation result.

'292 Patent, 3:44-59



'292 Patent: "GPS reliability calculation means" (1)



Case 5:16-cv-00178-RWS Document 100-1 Filed 10/23/17 Page 1 of 94 PageID #: 2061

THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

HITACHI MAXELL, LTD.,

Plaintiff,

v.

HUAWEI DEVICE USA INC. AND
HUAWEI DEVICE CO., LTD.,

Defendants.

Civil Action No. 5:16-cv-00178-RWS

JURY TRIAL DEMANDED

DECLARATION OF DR. ROBERT AKL, D.Sc.
REGARDING CLAIM CONSTRUCTION OF
U.S. PATENT NOS. 7,509,139 AND 6,628,292

Akl Decl. (Dkt. 100-1) ¶¶104-06

104. In my opinion, that algorithm is not disclosed in the specification of the '292 patent. Instead, the only structure associated with the GPS reliability means is GPS reliability calculation unit 204, which is disclosed as a black box in the specification. The specification does not disclose the algorithm that is performed in that black box. Beyond missing an algorithm, the '292 patent does not have any disclosure that denotes sufficient structure to one of ordinary skill.

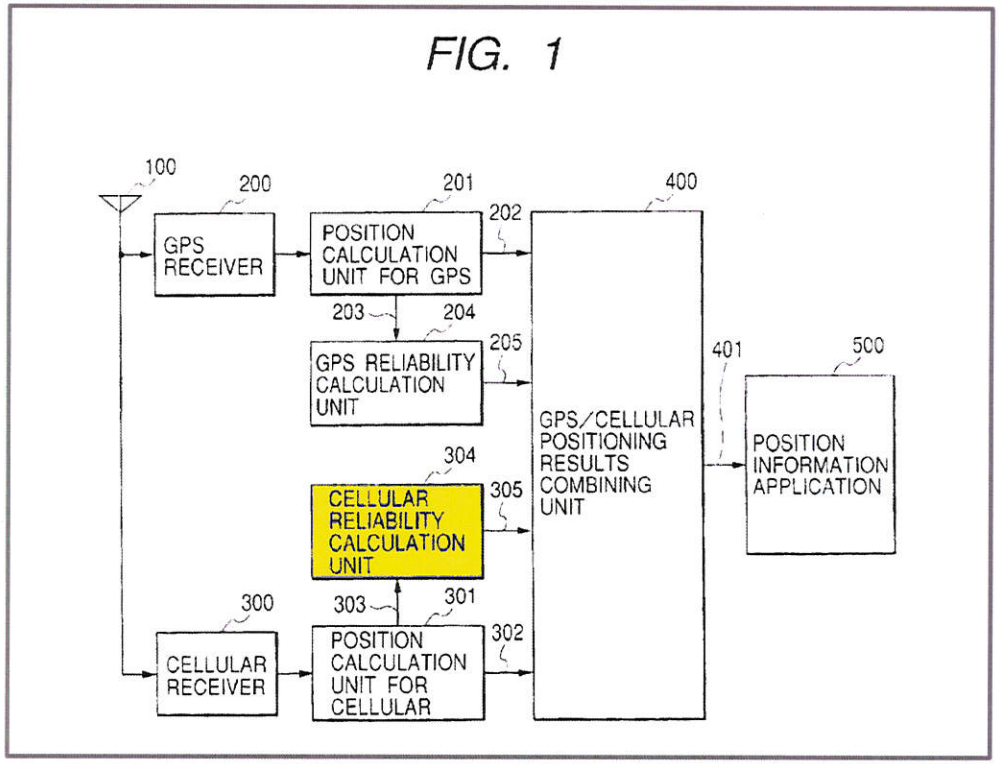
105. As I explain below, at most, the specification of the '292 patent discloses potential inputs to the black box reliability means and a desired output from the black box reliability means, but the structure (e.g., the algorithm) for converting those inputs to the desired output is not disclosed and is necessary for a person of ordinary skill in the art to understand what structure the inventors tried to claim here.

106. In my opinion, the additional citations to the specification that Maxell identifies as structure—(2:60-65; block 602 in Fig. 2), (3:38-4:3), and (5:3-7)—are not structure (e.g., not an algorithm) and are not associated with the claimed function of calculating GPS positioning reliability based on the GPS-based position result.

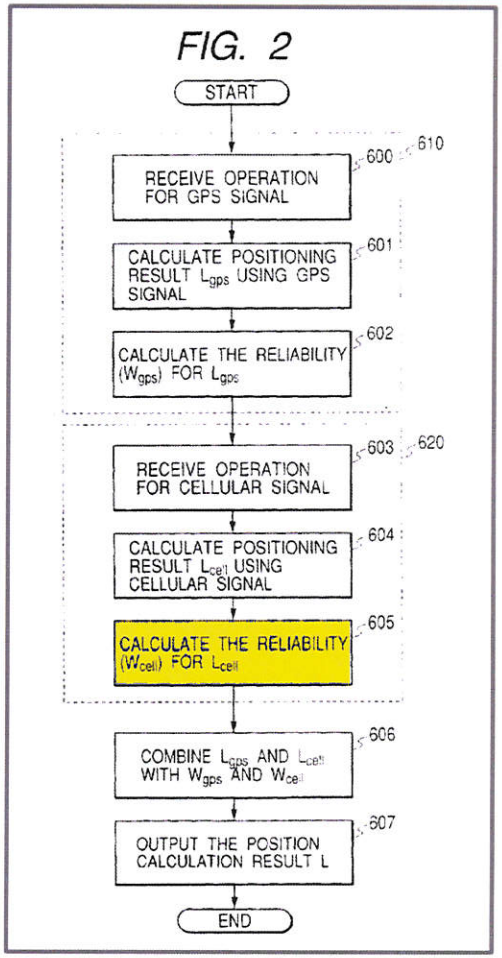
'292 Patent: "cellular reliability calculation means" (1)

No.	Term	Maxell	Huawei
10	"cellular reliability calculation means for calculating cellular positioning reliability based on the cellular-based position result" ('292 Patent, Claim 1)	**Function:** calculating cellular positioning reliability based on the cellular-based position result **Structure:** A cellular reliability calculation unit 304 and/or components within a mobile handset that perform processing functions, such as, a CPU programmed to execute processing in accordance with the algorithm set forth in the specification, a processor that performs cellular reliability calculation processes described in Fig. 2 (block 605) and corresponding recitations in the specification as provided herein, or equivalents thereof. See e.g., (3:10-11; block 605 in Fig. 2), (4:15-42), (3:6-11), (5:3-7).	**Function:** calculating cellular positioning reliability based on the cellular-based position result **Structure:** cellular reliability calculation unit 304, which is insufficient structure because the specification does not disclose the necessary algorithm or flowchart, which renders the term **indefinite**

’292 Patent: “cellular reliability calculation means” (1)



’292 Patent, Fig. 1



’292 Patent, Fig. 2

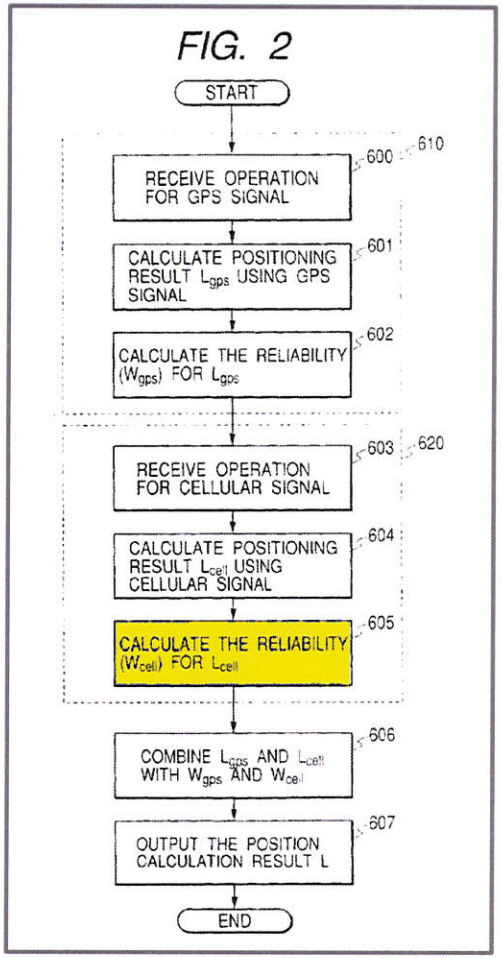
'292 Patent: "cellular reliability calculation means" (1)

stations. Thereafter, the mobile handset calculates its position using the cellular signals; that is, the handset calculates positioning result L_{cell} using the cellular signals **604**. The mobile handset also calculates the reliability (W_{cell}) for L_{cell} **605** using the number of cellular base stations used in calculating L_{cell} and the received signal quality for the signals from each cellular base station. These cellular-related processes are labeled **620**.

'292 Patent, 3:6-11

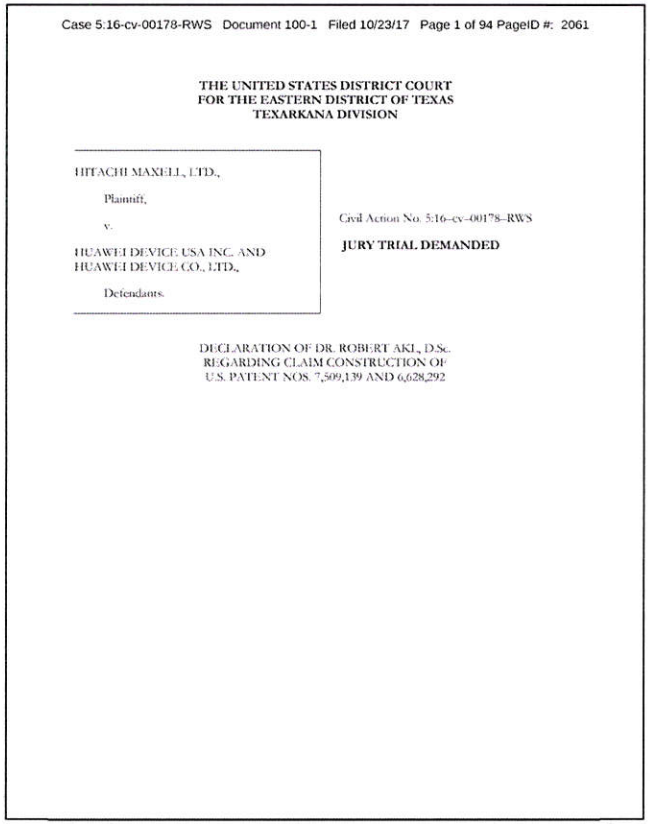
The cellular reliability calculation unit **304** calculates the reliability of the cellular-based position calculation result **305** based on the information about the reliability input from the position calculation unit for cellular **301**, and the unit **304** outputs the reliability **305** to the GPS/cellular positioning results combining unit **400**. The cellular reliability calculation unit **304** preferably calculates the reliability in the same manner as the GPS reliability calculation unit **204**. For example, the number of cellular base stations used when the position calculation unit for cellular **301** calculated the handset position or the lowest SNR among the SNRs of the signals received from the cellular base stations may be used as the reliability **305**.

'292 Patent, 4:22-34



'292 Patent, Fig. 2

'292 Patent: "cellular reliability calculation means" (1)



Case 5:16-cv-00178-RWS Document 100-1 Filed 10/23/17 Page 1 of 94 PageID #: 2061

THE UNITED STATES DISTRICT COURT
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Civil Action No. 5:16-cv-00178-RWS

JURY TRIAL DEMANDED

DECLARATION OF DR. ROBERT AKL, D.Sc.
REGARDING CLAIM CONSTRUCTION OF
U.S. PATENT NOS. 7,509,139 AND 6,628,292

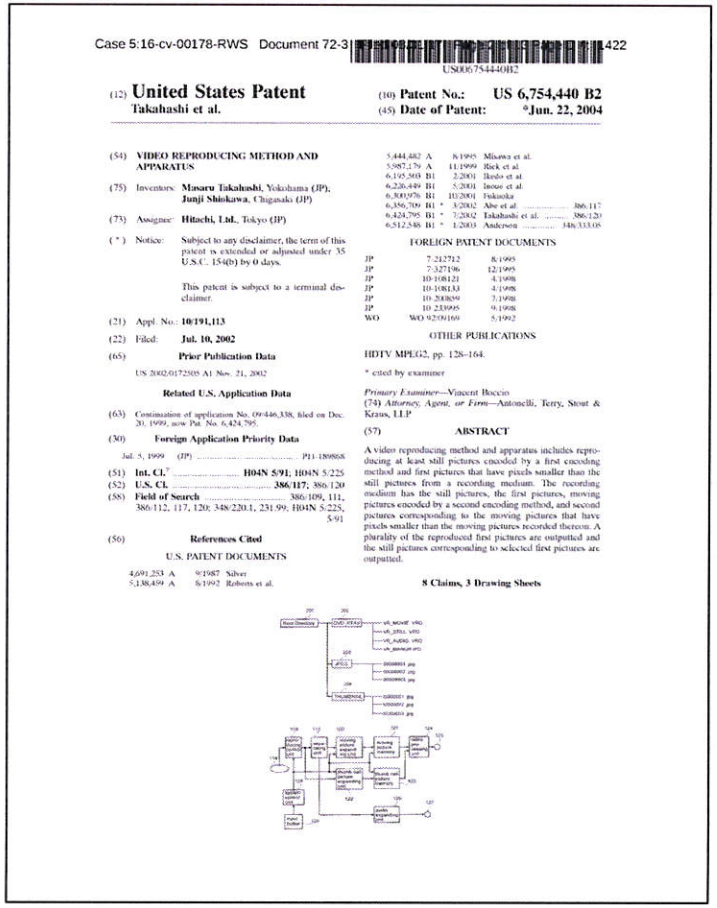
Akl Decl. (Dkt. 100-1) ¶¶146-47

146. In my opinion, that algorithm is not disclosed in the specification of the '292 patent for the same reasons it is not disclosed for the GPS reliability calculation means. Beyond missing an algorithm, the '292 patent does not have any disclosure that denotes sufficient structure to one of ordinary skill. The only disclosure clearly associated with the cellular reliability function is cellular reliability calculation unit 304. But "cellular reliability calculation unit" does not denote structure to one of ordinary skill. It is disclosed as a black box in the specification. The specification does not have any other disclosure (e.g., an algorithm) that denotes the structure for this black box. As I explain below, at most, the specification of the '292 patent discloses potential inputs to the black box reliability means and a desired output from the black box reliability means, but the structure (e.g., an algorithm) for converting those inputs to the desired output is not disclosed and is necessary for a person of ordinary skill in the art to understand what structure the inventors tried to claim here.

147. In my opinion, the additional citations to the specification that Maxell identifies—(3:10-11; block 605 in Fig. 2), (4:15-42), (3:6-11), and (5:3-7)—are not structure (e.g., not an algorithm) and are not associated with the claimed function of calculating cellular positioning reliability based on the cellular-based position result.

Agenda

- '139 Patent
- '292 Patent
- '440 Patent
- '760 Patent
- '517 Patent
- '901 Patent
- '438 Patent
- '443 Patent



Case 5:16-cv-00178-RWS Document 72-3 [redacted] 422

US006754440B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 6,754,440 B2**
(45) **Date of Patent: *Jun. 22, 2004**

(54) **VIDEO REPRODUCING METHOD AND APPARATUS**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/191,113**

(22) Filed: **Jul. 10, 2002**

(65) **Prior Publication Data**

US 2002/0172505 A1 Nov. 21, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/446,338, filed on Dec. 20, 1999, now Pat. No. 6,424,795.

(30) **Foreign Application Priority Data**

Jul. 5, 1999 (JP) P11-189868

(51) **Int. Cl.**[7] **H04N 5/91**; H04N 5/225

(52) **U.S. Cl.** **386/117**; 386/120

(58) **Field of Search** 386/109, 111, 386/112, 117, 120; 348/220.1, 231.99; H04N 5/225, 5/91

(56) **References Cited**

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6,424,795	B1 *	7/2002	Takahashi et al.	386/120
6,512,546	B1 *	1/2003	Anderson	348/333.05

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JP	10-108133	4/1998
JP	10-200859	7/1998
JP	10-233995	9/1998
WO	WO 92/09169	5/1992

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HDTV MPEG2, pp. 128–164.

* cited by examiner

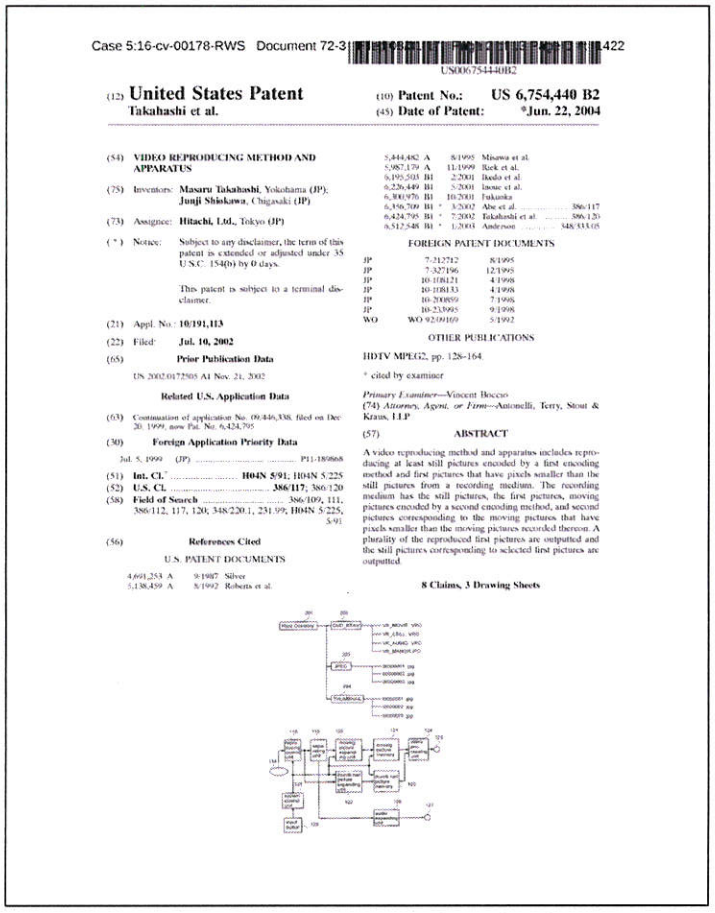
Primary Examiner—Vincent Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A video reproducing method and apparatus includes reproducing at least still pictures encoded by a first encoding method and first pictures that have pixels smaller than the still pictures from a recording medium. The recording medium has the still pictures, the first pictures, moving pictures encoded by a second encoding method, and second pictures corresponding to the moving pictures that have pixels smaller than the moving pictures recorded thereon. A plurality of the reproduced first pictures are outputted and the still pictures corresponding to selected first pictures are outputted.

8 Claims, 3 Drawing Sheets

’440 Patent: Disputed Terms



Case 5:16-cv-00178-RWS Document 72-3 [redacted] 422

US006754440B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 6,754,440 B2**
(45) **Date of Patent: *Jun. 22, 2004**

(54) **VIDEO REPRODUCING METHOD AND APPARATUS**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

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(58) **Field of Search** 386/109, 111, 386/112, 117, 120; 348/220.1, 231.99; H04N 5/225, 5/91

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6,512,548 B1 *	1/2003	Anderson	348/333.05

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JP	10-108133	4/1998
JP	10-200859	7/1998
JP	10-232995	9/1998
WO	WO 92/09169	5/1992

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HDTV MPEG2, pp. 128-164

* cited by examiner

Primary Examiner—Vincent Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A video reproducing method and apparatus includes reproducing at least still pictures encoded by a first encoding method and first pictures that have pixels smaller than the still pictures from a recording medium. The recording medium has the still pictures, the first pictures, moving pictures encoded by a second encoding method, and second pictures corresponding to the moving pictures that have pixels smaller than the moving pictures recorded thereon. A plurality of the reproduced first pictures are outputted and the still pictures corresponding to selected first pictures are outputted.

8 Claims, 3 Drawing Sheets

- “still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and having a smaller number of pixels than the still pictures are recorded” (claims 1, 3, 5, 7)

'440 Patent: "still pictures encoded by a second encoding method..."

No.	Term	Maxell	Huawei
11	"still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and having a smaller number of pixels than the still pictures are recorded" ('440 Patent, Claims 1, 3, 5 and 7)	Plain and ordinary meaning	"still pictures encoded by the first encoding method and by a second encoding method, and second pictures corresponding to the still pictures and having a smaller number of pixels than the still pictures are recorded"

'440 Patent: Claim 1

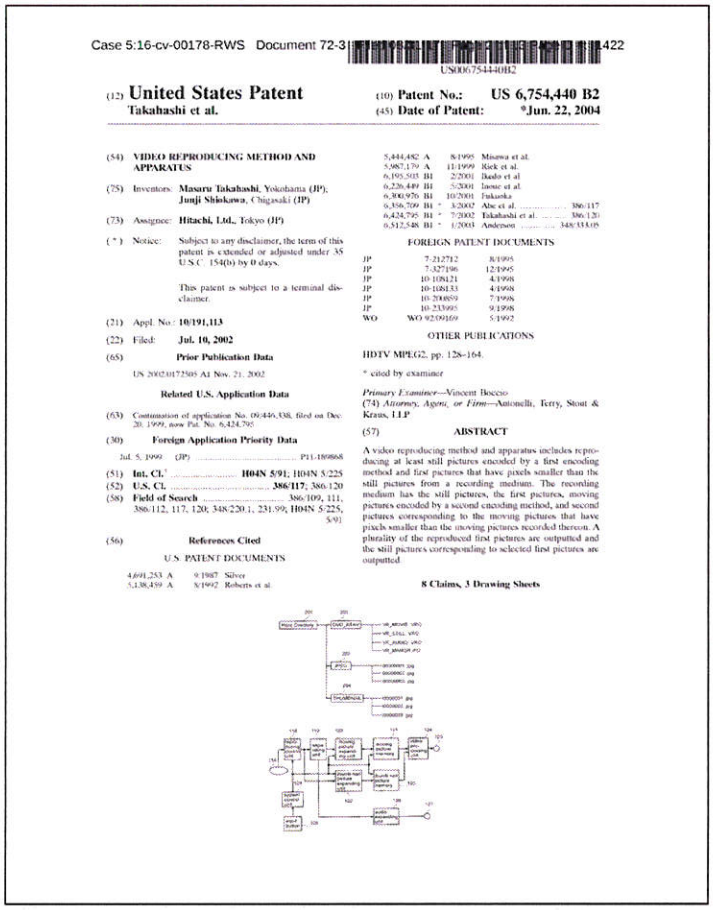
1. A video reproducing method, comprising:

reproducing, from a recording medium, at least moving pictures encoded by a first encoding method and first pictures having a smaller number of pixels than the moving pictures, wherein the moving pictures, the first pictures, as well as still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and having a smaller number of pixels than the still pictures are recorded on the recording medium;

outputting a plurality of reproduced ones of the first pictures; and

outputting a moving picture corresponding to any selected first picture.

’440 Patent: Summary



Case 5:16-cv-00178-RWS Document 72-3 422

US006754440B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 6,754,440 B2**
(45) **Date of Patent: *Jun. 22, 2004**

(54) **VIDEO REPRODUCING METHOD AND APPARATUS**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

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(21) Appl. No.: **10/191,113**

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(65) **Prior Publication Data**

US 2002/0172505 A1 Nov. 21, 2002

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(52) **U.S. Cl.** **386/117**; 386/120
(58) **Field of Search** 386/109, 111, 386/112, 117, 120; 348/220.1, 231.99; H04N 5/225, 5/91

(56) **References Cited**

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6,226,449 B1 5/2001 Inoue et al.
6,300,976 B1 * 10/2001 Fukuoka
6,356,709 B1 * 3/2002 Abe et al. 386/117
6,424,795 B1 * 7/2002 Takahashi et al. 386/120
6,512,548 B1 * 1/2003 Anderson 348/333.05

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JP 10-270859 7/1998
JP 10-233995 9/1998
WO WO 92/09169 5/1992

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* cited by examiner

Primary Examiner—Vincent Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A video reproducing method and apparatus includes reproducing at least still pictures encoded by a first encoding method and first pictures that have pixels smaller than the still pictures from a recording medium. The recording medium has the still pictures, the first pictures, moving pictures encoded by a second encoding method, and second pictures corresponding to the moving pictures that have pixels smaller than the moving pictures recorded thereon. A plurality of the reproduced first pictures are outputted and the still pictures corresponding to selected first pictures are outputted.

8 Claims, 3 Drawing Sheets

A still picture using two encodings is:

- Identified as the key feature of the invention in the specification
- Required by all embodiments
- Confirmed as the key feature by the prosecution history of the patent family
- Maxell fails to show that any embodiment omits this key feature.

’440 Patent: Problem

Type	*Encoding/Decoding*	*Claim Term*
Video	MPEG	**“first encoding method” (moving picture encoding method)**
Still Picture	JPEG	**“second encoding method” (still picture encoding method)**

- Still picture not recorded by a moving picture format
- Video player cannot display still pictures

recorded simultaneously. The conventional techniques, however, do not consider encoding of still pictures read from a fine photographing element with the use of such an encoding method as MPEG for moving pictures. In

’440 Patent, 2:5-8

'440 Patent: Solution

- Save a still picture in still and single-frame moving picture formats

Type	*Encoding/Decoding*	*Claim Term*
Video	MPEG	**"first encoding method" (moving picture encoding method)**
Still Picture	JPEG & Single-Frame MPEG	**"second encoding method" (still picture encoding method)** **"first encoding method" (moving picture encoding method)**

- Video player can display both video and still pictures

Under the circumstances, it is the first object of the present invention to provide an apparatus and a method for recording pictures, which are preferred to solve the above conventional problems and enable recordable players and other ordinary players which reproduce moving pictures to reproduce and record fine still pictures, as well.

'440 Patent, 2:31-36

In order to achieve the first object, the recording method of the present invention used for a video recording apparatus that can record both moving and still pictures on a recording medium includes steps for recording moving pictures encoded with the use of the first encoding method when in recording moving pictures; and for recording still pictures encoded with the use of the second encoding method and other still pictures encoded by the first encoding method from single frame signals obtained from the still pictures when in recording still pictures. Furthermore, the video

'440 Patent, 2:50-59

'440 Patent: Reflected In All Embodiments

- Every embodiment requires encoding still pictures using a moving picture encoding method

the recording control unit 113 as still picture file data. Then, the signal converting unit **109** converts the signal format of a sheet of pictures stored in the still picture memory **108** to the same signal format as that of single frame moving picture signals, then the converted signals are stored in the moving picture memory **107**. Then, the moving picture

'440 Patent, 7:3-8 (first embodiment)

If the still picture photographing mode is selected by the switch **116**, at first, still picture file data generated in the fine still picture compressing unit **106** are recorded on the recording medium **114** together with still pictures in the compressed moving picture stream format generated in the moving picture compressing unit **105** just like in the first embodiment. Then, fine still pictures are read from the still

'440 Patent, 9:36-42 (second embodiment)

If a still picture is selected, the system control unit **128** controls the whole system as follows. The reproducing control unit **118** reproduces a data file in such a compressed moving picture stream format as the MPEG I-picture one.

'440 Patent, 12:38-41 (third embodiment)

If a still picture is selected, a data file in such a compressed moving picture stream format as the MPEG I-picture one is selected from two types of still picture data files corresponding to the selected thumb nail just like in the third embodiment. Then, the reproduced data file is dis-

'440 Patent, 13:58-62 (fourth embodiment)

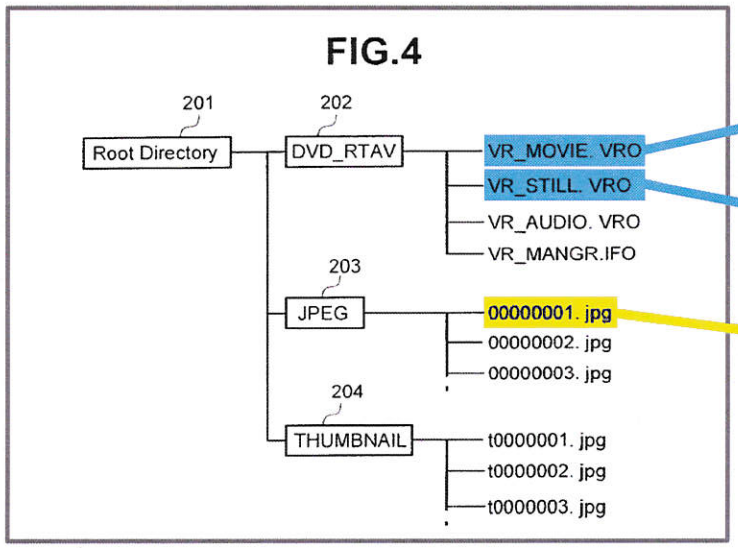
'440 Patent: Reflected In All Embodiments

In the moving picture photographing mode, moving pictures are recorded in the VR_MOVIE.VRO file under the DVD_RTAV directory **202** shown in FIG. **4**, as well as the management information in the management file VR_MANGR.IFO is rewritten. Furthermore, a thumb nail

'440 Patent, 10:62-66

directory 204. In the still picture photographing mode, MPEG I-picture still pictures are recorded in the VR_STILL.VRO file and the management information in the management file VR_MANGR.IFO is rewritten, as well as a fine still picture data file containing JPEG-compressed data is recorded with a file name of 00000001.jpg under the JPEG directory **203**, and furthermore, the thumb nail picture

'440 Patent, 11:2-8



'440 Patent, Fig. 4

Moving picture

Still picture – Single-frame moving picture format

Still picture – Still picture format

'440 Patent: Benefit Of Alleged Invention

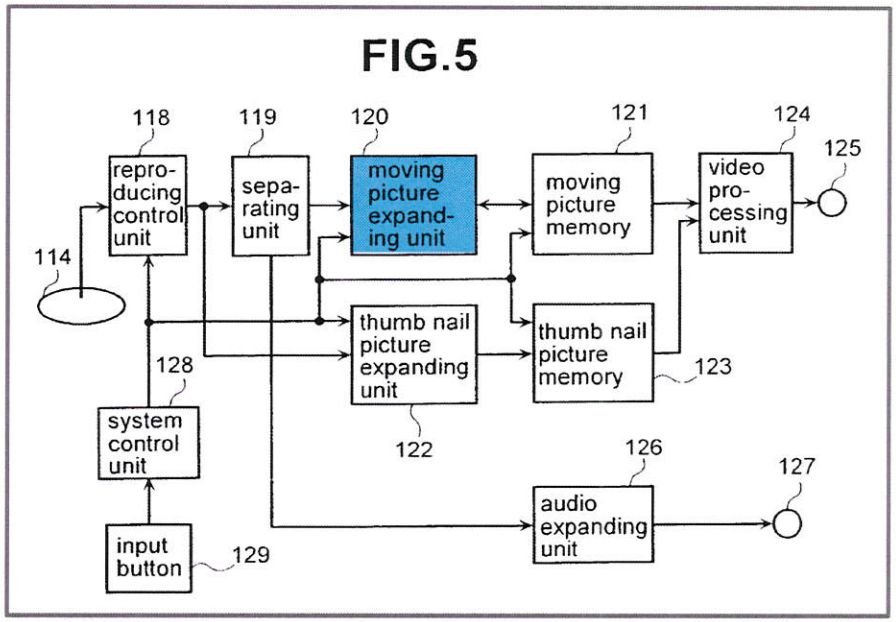
- Video player does not need a still picture expanding unit
- Eliminate the fine still picture expanding unit from the reproducing apparatus

Numeral **120** is a moving picture expanding unit for expanding compressed moving picture streams or a compressed still picture data file to restore original video signals in accordance with such a moving picture encoding standard as MPEG. Numeral 121 is a moving picture memory for

'440 Patent, 11:45-49

the video output terminal in the moving picture format. It is thus possible to omit the signal converting circuit for converting the format of the fine still picture signals to the same signal format as that of the single frame moving picture signals, thereby the apparatus circuit is simplified. Furthermore, if no fine still picture signal is output as described in this embodiment, the fine still picture expanding circuit can also be omitted.

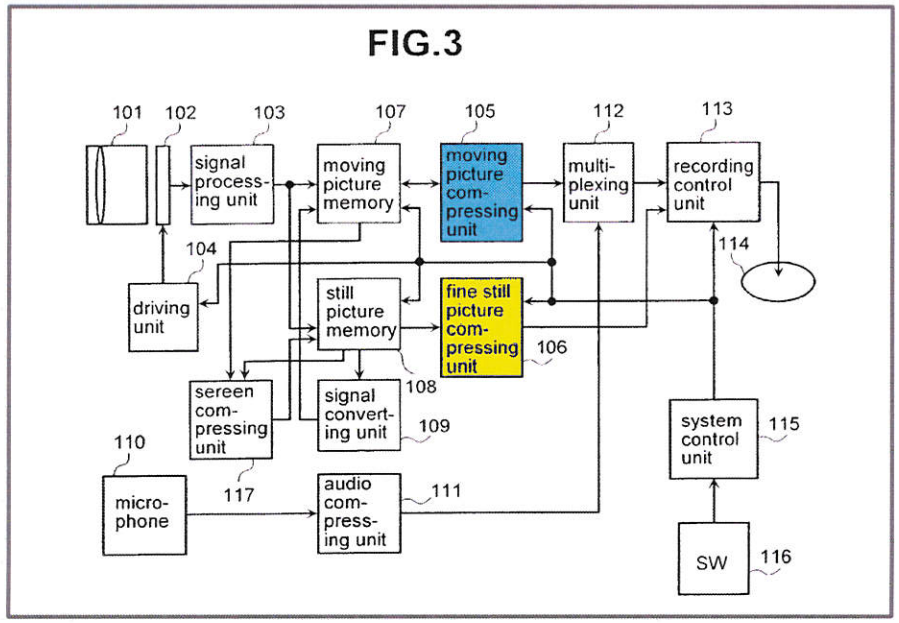
'440 Patent, 12:56-63



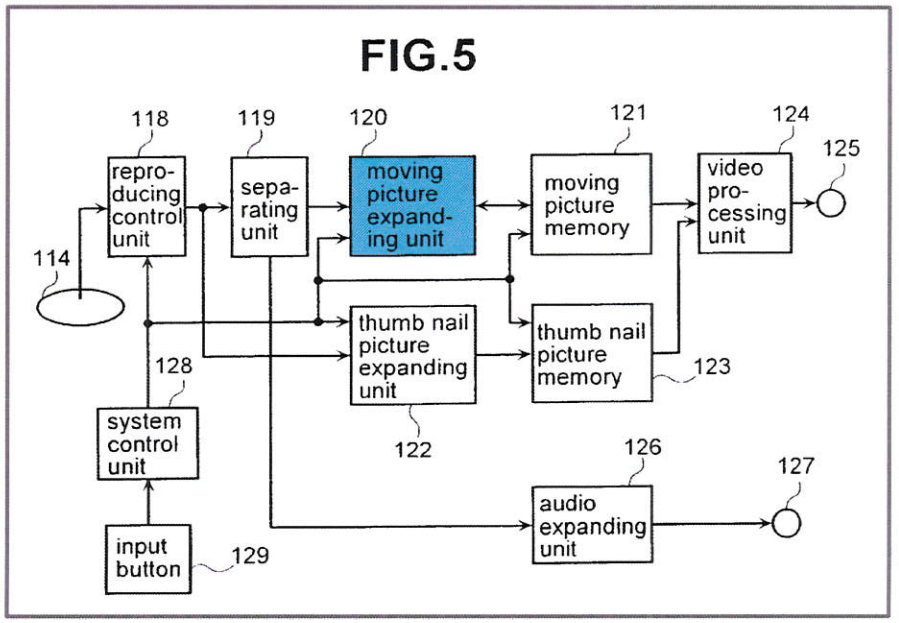
'440 Patent, Fig. 5

’440 Patent: Benefit Of Alleged Invention

- Moving picture encoding is present both in the recording apparatus (Fig. 3) and the reproducing apparatus (Fig. 5)
- Still picture encoding is present in the recording apparatus (Fig. 3), but absent in the reproducing apparatus (Fig. 5)

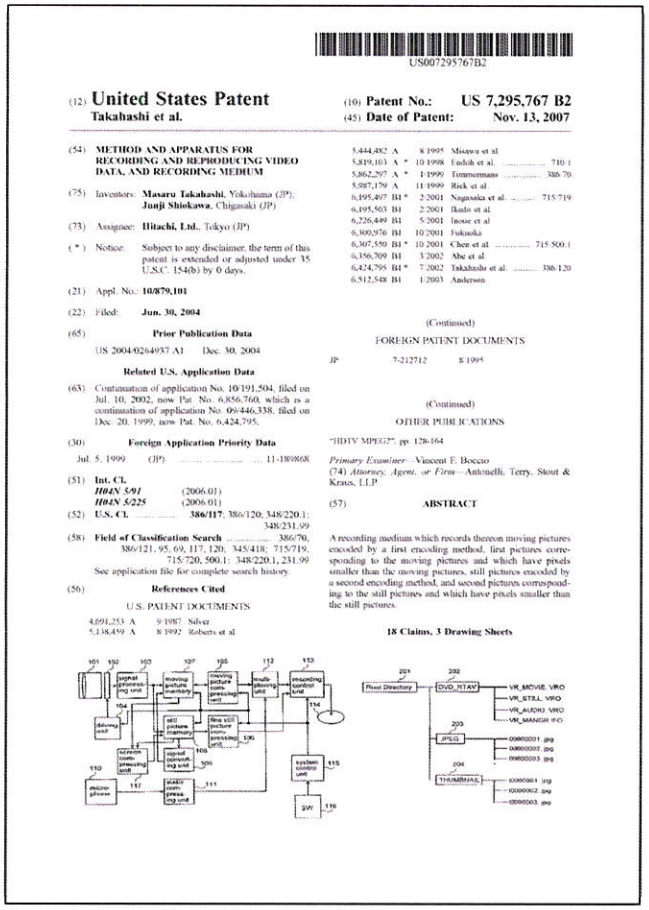


’440 Patent, Fig. 3



’440 Patent, Fig. 5

’440 Patent: Alleged Invention Emphasized During Prosecution



US007295767B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 7,295,767 B2**
(45) **Date of Patent: Nov. 13, 2007**

(54) **METHOD AND APPARATUS FOR RECORDING AND REPRODUCING VIDEO DATA, AND RECORDING MEDIUM**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/879,101**

(22) Filed: **Jun. 30, 2004**

(65) **Prior Publication Data**

US 2004/0264937 A1 Dec. 30, 2004

Related U.S. Application Data

(63) Continuation of application No. 10/191,504, filed on Jul. 10, 2002, now Pat. No. 6,856,760, which is a continuation of application No. 09/446,338, filed on Dec. 20, 1999, now Pat. No. 6,424,795.

(30) **Foreign Application Priority Data**

Jul. 5, 1999 (JP) 11-189868

(51) **Int. Cl.**
H04N 5/91 (2006.01)
H04N 5/225 (2006.01)

(52) **U.S. Cl.** **386/117**; 386/120; 348/220.1; 348/231.99

(58) **Field of Classification Search** 386/70, 386/121, 95, 69, 117, 120; 345/418; 715/719, 715/720, 500.1; 348/220.1, 231.99
See application file for complete search history.

(56) **References Cited**

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6,300,976 B1	10/2001	Fukuoka		
6,307,559 B1 *	10/2001	Chen et al.		715/500.1
6,356,709 B1	3/2002	Abe et al.		
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6,512,548 B1	1/2003	Anderson		

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"HDTV MPEG2", pp. 128-164

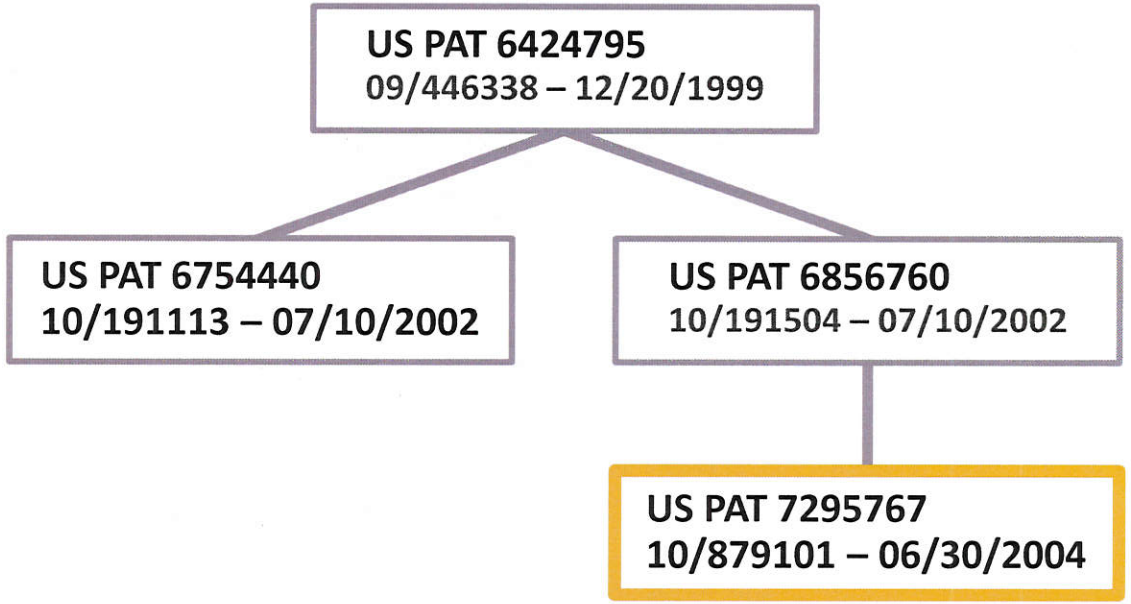
Primary Examiner—Vincent F. Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A recording medium which records thereon moving pictures encoded by a first encoding method, first pictures corresponding to the moving pictures and which have pixels smaller than the moving pictures, still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and which have pixels smaller than the still pictures.

18 Claims, 3 Drawing Sheets

- The ’440 Patent, ’760 Patent, and ’767 Patent are all continuations of U.S. Patent No. 6,424,795



'440 Patent: Alleged Invention Emphasized During Prosecution

- During prosecution of U.S. 7,295,767, which shares the specification with the '440 Patent, the inventors overcame an obviousness rejection by arguing that:

> One characteristic point of the present invention is that the machine-readable recording medium of the present invention has recorded thereon:
>
> * still pictures encoded by **the first** encoding method **by which moving pictures are encoded**; and

Ex. 11 ('767 File History) at 12

'440 Patent: Alleged Invention Emphasized During Prosecution

- Maxell further argued that:

> According to the present invention, you can get an excellent merit like following. For example, Applicant's invention is advantageous in a moving-picture-only player which implements the first encoding method by which moving pictures are encoded (for example, MPEG), but which does not implement the second encoding method by which still pictures are encoded (for example, JPEG). In fact,

Ex. 11 ('767 File History) at 12

- Maxell reinforced this by arguing that their

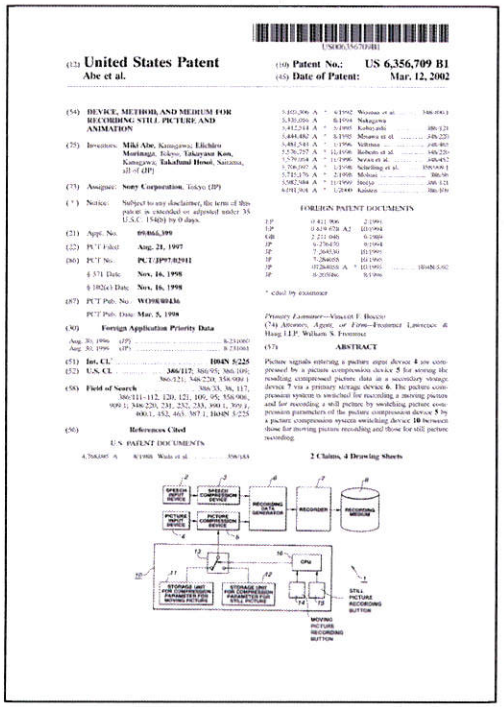
> representative, the following additional remarks are submitted. More particularly, above, it was mentioned that Applicant's invention having moving/first-encoding-method (e.g., MPEG), and still/first-encoding-method (e.g., MPEG) recordings was key in being able to reproduce still pictures within a device having MPEG-only capabilities. It is respectfully submitted that Applicant's invention (claims 2, 3, 8, 9,

Ex. 11 ('767 File History) at 13

’440 Patent: Cited Art Stored Still Image in Two Formats

- Claim rejected during prosecution based on *Abe* (US 6,356,709) in view of *Anderson* (US 6,512,548)

Abe (US 6,356,709)



US006356709B1

(12) **United States Patent**
Abe et al.

(10) **Patent No.: US 6,356,709 B1**
(45) **Date of Patent: Mar. 12, 2002**

(54) **DEVICE, METHOD, AND MEDIUM FOR RECORDING STILL PICTURE AND ANIMATION**

(75) Inventors: **Miki Abe**, Kanagawa; **Eiichiro Morinaga**, Tokyo; **Takayasu Kon**, Kanagawa; **Takahumi Hosoi**, Saitama, all of (JP)

(73) Assignee: **Sony Corporation**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/066,399**

(22) PCT Filed: **Aug. 28, 1997**

(86) PCT No.: **PCT/JP97/02911**

§ 371 Date: **Nov. 16, 1998**

§ 102(e) Date: **Nov. 16, 1998**

(87) PCT Pub. No.: **WO98/08436**

PCT Pub. Date: **Mar. 5, 1998**

(30) **Foreign Application Priority Data**

Aug. 30, 1996 (JP) 8-231000
Aug. 30, 1996 (JP) 8-231001

(51) **Int. Cl.**[7] **H04N 5/225**

(52) **U.S. Cl.** **386/117**; 386/95; 386/109; 386/121; 348/220; 358/909.1

(58) **Field of Search** 386/33, 36, 117, 386/111-112, 120, 121, 109, 95; 358/906, 909.1; 348/220, 231, 232, 233, 800.1, 809.1, 800.1, 452, 463; 387.1; H04N 5/225

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JP	7-284055	10/1995	
JP	07264588 A *	10/1995	H04N 5/92
JP	8-205086	8/1996	

* cited by examiner

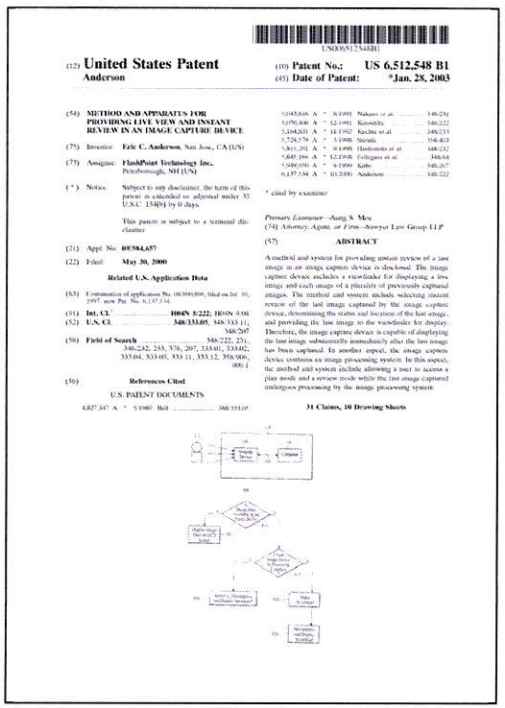
Primary Examiner—Vincent F. Boccio
(74) *Attorney, Agent, or Firm*—Frommer Lawrence & Haug LLP; William S. Frommer

(57) **ABSTRACT**

Picture signals entering a picture input device **4** are compressed by a picture compression device **5** for storing the resulting compressed picture data in a secondary storage device **7** via a primary storage device **6**. The picture compression system is switched for recording a moving picture and for recording a still picture by switching picture compression parameters of the picture compression device **5** by a picture compression system switching device **10** between those for moving picture recording and those for still picture recording.

2 Claims, 4 Drawing Sheets

Anderson (US 6,512,548)



US006512548B1

(12) **United States Patent**
Anderson

(10) **Patent No.: US 6,512,548 B1**
(45) **Date of Patent: *Jan. 28, 2003**

(54) **METHOD AND APPARATUS FOR PROVIDING LIVE VIEW AND INSTANT REVIEW IN AN IMAGE CAPTURE DEVICE**

(75) Inventor: **Eric C. Anderson**, San Jose, CA (US)

(73) Assignee: **FlashPoint Technology Inc.**, Peterborough, NH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/584,657**

(22) Filed: **May 30, 2000**

Related U.S. Application Data

(63) Continuation of application No. 08/893,899, filed on Jul. 10, 1997, now Pat. No. 6,137,534.

(51) **Int. Cl.**[7] **H04N 5/222**; H04N 5/91
(52) **U.S. Cl.** **348/333.05**; 348/333.11; 348/207
(58) **Field of Search** 348/222, 231, 348/232, 233, 376, 207, 333.01, 333.02, 333.04, 333.05, 333.11, 333.12, 358/906, 909.1

(56) **References Cited**

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5,889,950 A * 9/1999 Kuhn 348/207
6,137,534 A * 10/2000 Anderson 348/222

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Primary Examiner—Aung S. Moe
(74) *Attorney, Agent, or Firm*—Sawyer Law Group LLP

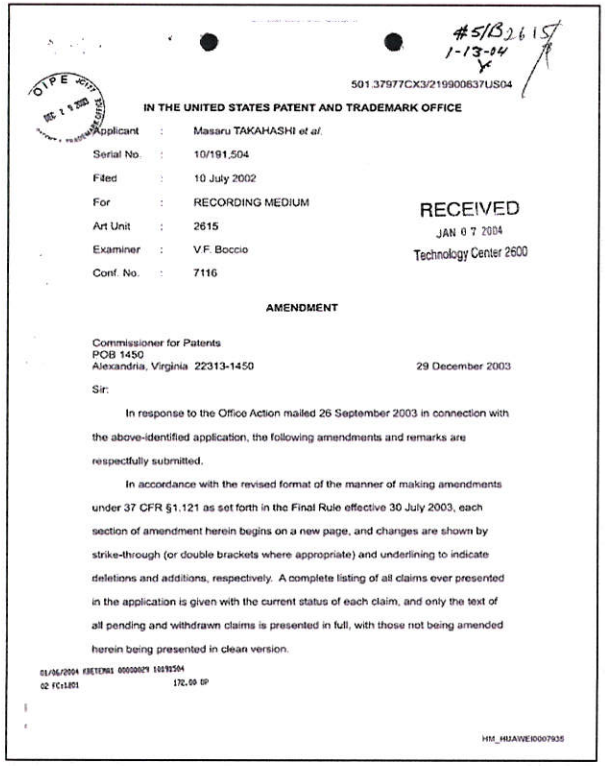
(57) **ABSTRACT**

A method and system for providing instant review of a last image in an image capture device is disclosed. The image capture device includes a viewfinder for displaying a live image and each image of a plurality of previously captured images. The method and system include selecting instant review of the last image captured by the image capture device, determining the status and location of the last image, and providing the last image to the viewfinder for display. Therefore, the image capture device is capable of displaying the last image substantially immediately after the last image has been captured. In another aspect, the image capture device continues an image processing system. In this aspect, the method and system include allowing a user to access a play mode and a review mode while the last image captured undergoes processing by the image processing system.

31 Claims, 10 Drawing Sheets

'440 Patent: Prosecution History

- Applicant overcame the office rejection by representing that claims 1-8 required a **first still picture in MPEG** and a **second still picture in JPEG**



#5/B2615
1-13-04

501.37977CX3/219900837US04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Masaru TAKAHASHI *et al.*
Serial No. : 10/191,504
Filed : 10 July 2002
For : RECORDING MEDIUM
Art Unit : 2615
Examiner : V.F. Boccio
Conf. No. : 7116

RECEIVED
JAN 0 7 2004
Technology Center 2600

AMENDMENT

Commissioner for Patents
POB 1450
Alexandria, Virginia 22313-1450

29 December 2003

Sir:

In response to the Office Action mailed 26 September 2003 in connection with the above-identified application, the following amendments and remarks are respectfully submitted.

In accordance with the revised format of the manner of making amendments under 37 CFR §1.121 as set forth in the Final Rule effective 30 July 2003, each section of amendment herein begins on a new page, and changes are shown by strike-through (or double brackets where appropriate) and underlining to indicate deletions and additions, respectively. A complete listing of all claims ever presented in the application is given with the current status of each claim, and only the text of all pending and withdrawn claims is presented in full, with those not being amended herein being presented in clean version.

01/06/2004 KBETEMA1 00000029 10191504
02 FC:1401 170.00 OP

HM_HUAWEI0007935

Furthermore, Anderson solely teaches recording still images, and two kinds of pictures, such as screennails and thumbnails. Applicant respectfully compares clarified Claims 1-8, and Anderson, as follows.

Claims 1-8	Anderson (see Fig. 5)
First still picture (MPEG)	X (no disclosure)
Second still picture (JPEG)	Compressed image data
First picture	X (no disclosure)
Second picture	Thumbnail and Screennail

It is clear that Anderson doesn't disclose Applicant's "outputting a moving picture corresponding to any selected first picture." Therefore, clarified Claims 1-8 are clearly different from Anderson.

Jan. 6 Response in the File History for U.S. Patent No. 6,754,440 at 9

'440 Patent: Case Law Limits Claims To The Invention

Alloc, Inc. v. Int'l Trade Comm'n

- Affirmed construction included "play" in the joint even though that word was not in the claims, 342 F.3d at 1370
- "[T]he invention as a whole, not merely a preferred embodiment, provides for play." *Id.* at 1368-69.
- "[A]ll the figures and embodiments disclosed in the asserted patents impl[ied] play" or "expressly disclose[d] play." *Id.* at 1370.
- The prosecution history of the patent-family confirmed that "play is a key feature of the claimed invention." *Id.* at 1371.
- To overcome prior art, "the applicant represented to the USPTO examiner that play facilitated its novel system." *Id.* at 1372.

Alloc, Inc. v. Int'l Trade Comm'n, 342 F.3d 1361 (Fed. Cir. 2003)

'440 Patent: Case Law Limits Claims To The Invention

Virnetx, Inc. v. Cisco Sys., Inc.

- The Federal Circuit construed "secure communication link" to require both "security" and "anonymity." 767 F.3d 1308, 1317-19.
- "[T]he Summary of the Invention" gave "primacy to these [anonymity] attributes," which "strongly indicates that the invention requires more than just data security." *Id.* at 1317-18.
- The concealment or anonymity requirement was "implicated in every embodiment." *Id.* at 1318.

Virnetx, Inc. v. Cisco Sys., Inc., 767 F.3d 1308 (Fed. Cir. 2014).

'440 Patent: Case Law Limits Claims To The Invention

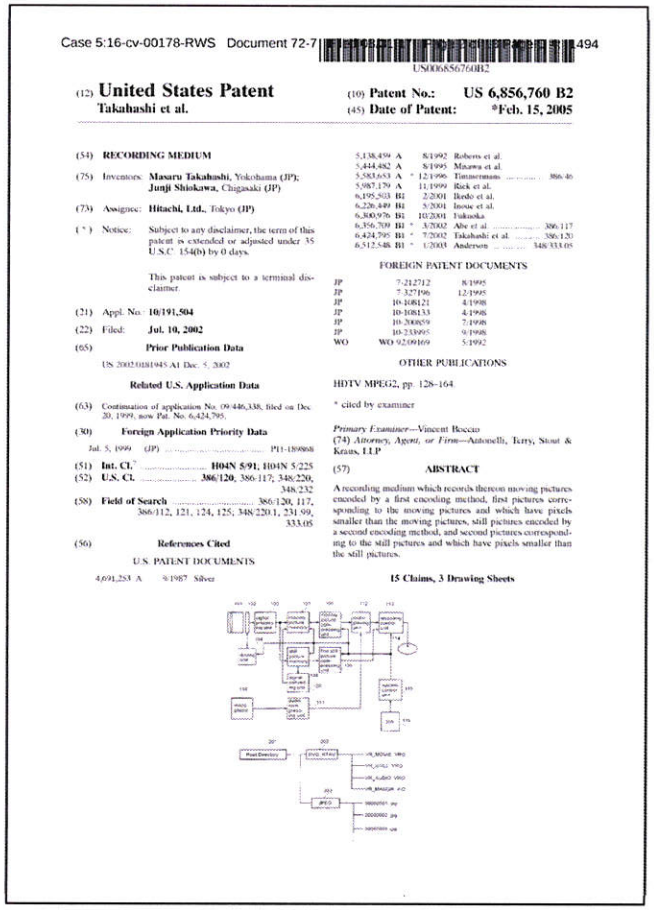
Honeywell Int'l, Inc. v. ITT Indus., Inc.

- The Federal Circuit limited "fuel injection system component" to only "fuel filter." 452 F.3d 1312, 1318.
- The fuel filter was described as "th[e] invention" and "the present invention." *Id.*
- "The public [wa]s entitled to take the patentee at his word and the word was that the invention is a fuel filter." *Id.*
- The "fuel filter [wa]s not a preferred embodiment," it was the "only embodiment." *Id.*

Honeywell Int'l, Inc. v. ITT Indus., Inc., 452 F.3d 1312 (Fed. Cir. 2006)

Agenda

- ’139 Patent
- ’292 Patent
- ’440 Patent
- **’760 Patent**
- ’517 Patent
- ’901 Patent
- ’438 Patent
- ’443 Patent



Case 5:16-cv-00178-RWS Document 72-7 494

US006856760B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 6,856,760 B2**
(45) **Date of Patent: *Feb. 15, 2005**

(54) **RECORDING MEDIUM**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/191,504**

(22) Filed: **Jul. 10, 2002**

(65) **Prior Publication Data**

US 2002/0181945 A1 Dec. 5, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/446,338, filed on Dec. 20, 1999, now Pat. No. 6,424,795.

(30) **Foreign Application Priority Data**

Jul. 5, 1999 (JP) P11-189868

(51) **Int. Cl.**[7] **H04N 5/91**; H04N 5/225

(52) **U.S. Cl.** **386/120**; 386/117; 348/220; 348/232

(58) **Field of Search** 386/120, 117, 386/112, 121, 124, 125; 348/220.1, 231.99, 333.05

(56) **References Cited**

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JP	10-108133	4/1998
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JP	10-233095	9/1998
WO	WO 92/09169	5/1992

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HDTV MPEG2, pp. 128–164.

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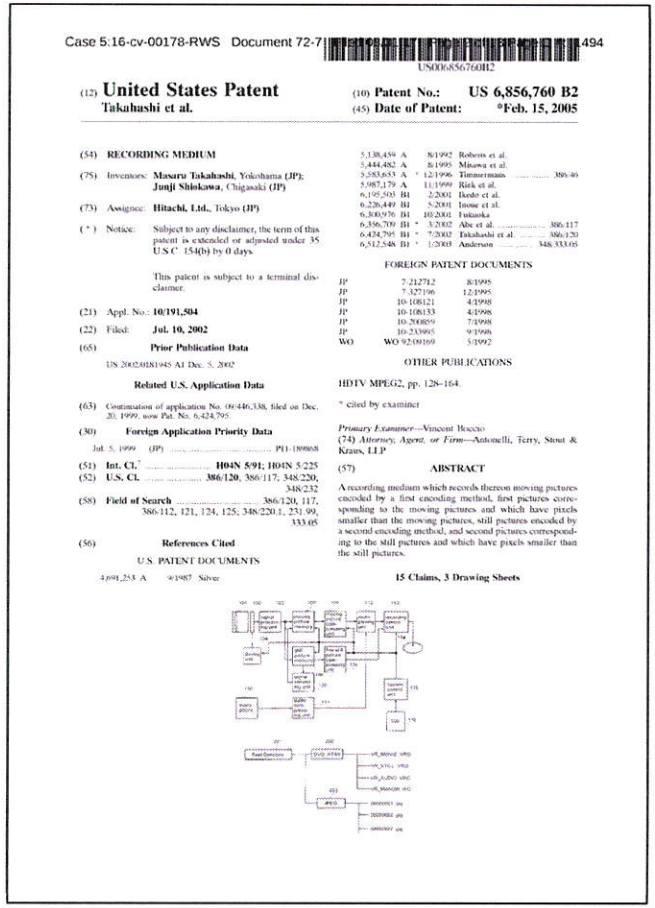
Primary Examiner—Vincent Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A recording medium which records thereon moving pictures encoded by a first encoding method, first pictures corresponding to the moving pictures and which have pixels smaller than the moving pictures, still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and which have pixels smaller than the still pictures.

15 Claims, 3 Drawing Sheets

’760 Patent: Disputed Terms



Case 5:16-cv-00178-RWS Document 72-7 494

US006856760B2

(12) **United States Patent**
Takahashi et al.

(10) **Patent No.: US 6,856,760 B2**
(45) **Date of Patent: *Feb. 15, 2005**

(54) **RECORDING MEDIUM**

(75) Inventors: **Masaru Takahashi**, Yokohama (JP); **Junji Shiokawa**, Chigasaki (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/191,504**

(22) Filed: **Jul. 10, 2002**

(65) **Prior Publication Data**

US 2002/0181945 A1 Dec. 5, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/446,338, filed on Dec. 20, 1999, now Pat. No. 6,424,795.

(30) **Foreign Application Priority Data**

Jul. 5, 1999 (JP) P11-189868

(51) **Int. Cl.**[7] **H04N 5/91**; H04N 5/225

(52) **U.S. Cl.** **386/120**, 386/117; 348/220, 348/232

(58) **Field of Search** 386/120, 117, 386/112, 121, 124, 125; 348/220.1, 231.99, 333.05

(56) **References Cited**

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4,691,253 A 9/1987 Silver

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6,424,795 B1 * 7/2002 Takahashi et al. 386/120
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JP	10-200859	7/1998
JP	10-233995	9/1998
WO	WO 92/09169	5/1992

OTHER PUBLICATIONS

HDTV MPEG2, pp. 128–164.

* cited by examiner

Primary Examiner—Vincent Boccio
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

A recording medium which records thereon moving pictures encoded by a first encoding method, first pictures corresponding to the moving pictures and which have pixels smaller than the moving pictures, still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and which have pixels smaller than the still pictures.

15 Claims, 3 Drawing Sheets

- “first encoding method” (claims 1, 3, 4, 6, 7, 9, 10, 12, 13, and 15)

'760 Patent: "first encoding method" (1, 3, 4, 6, 7, 9, 10, 12, 13, and 15)

No.	Term	Maxell	Huawei
14	"first encoding method" ('760 Patent, Claims 1, 3, 4, 6, 7, 9, 10, 12, 13, and 15)	Plain and ordinary meaning	"moving picture encoding method"

'760 Patent: Claim 1

1. A machine-readable recording medium comprising:

a first still picture recorded thereon encoded by a first encoding methods, wherein the first still picture having descriptive information associated therewith to allow a machine to recognize and decode the first still picture for display;

a second still picture recorded thereon encoded by a second encoding method, wherein the second still picture having descriptive information associated therewith to allow the machine to recognize and decode the second still picture for display, wherein the second encoding method is different from the first encoding method; and

a picture recorded thereon corresponding to said first and second still pictures, which has a smaller number of pixels than said first and second still pictures, wherein the picture having descriptive information associated therewith to allow the machine to recognize and decode the picture for display,

wherein said first still picture, said second still picture and said picture are related pictures derived from common signal data.

'760 Patent, Claim 1

'760 Patent: Summary

- The '760 Patent shares the '440 Patent's specification.
- As with the '440 Patent, a still picture using two encodings is:
  - Identified as the key feature of the invention in the specification
  - Required by all embodiments
  - Confirmed as the key feature by the prosecution history of the patent family
  - Maxell fails to show that any embodiment omits this key feature.
- In addition, the '760 Patent:
  - Consistently uses "first encoding method" to mean moving picture encoding method and "second encoding method" to mean still picture encoding method
  - Patentee distinguished prior art during prosecution by relying on the encoding of a still picture using a moving picture encoding method

’760 Patent: Claims Capture Still Image

- Shares specification with the ’440 Patent
- Claims recording still picture in two different encodings

Background Prior Art

Type	*Encoding/Decoding*	*Claim Term*
Video	MPEG	“first encoding method” (moving picture encoding method)
Still Picture	JPEG	“second encoding method” (still picture encoding method)

Alleged Invention

Type	*Encoding/Decoding*	*Claim Term*
Video	MPEG	“first encoding method” (moving picture encoding method)
Still Picture	JPEG & Single-Frame MPEG	“second encoding method” (still picture encoding method) “first encoding method” (moving picture encoding method)

'760 Patent: Reflected in Specification

- Save a still picture in still and single-frame moving picture formats

Type	*Encoding/Decoding*	*Claim Term*
Video	MPEG	**"first encoding method" (moving picture encoding method)**
Still Picture	JPEG & Single-Frame MPEG	**"second encoding method" (still picture encoding method)** **"first encoding method" (moving picture encoding method)**

- Video player can display both video and still pictures

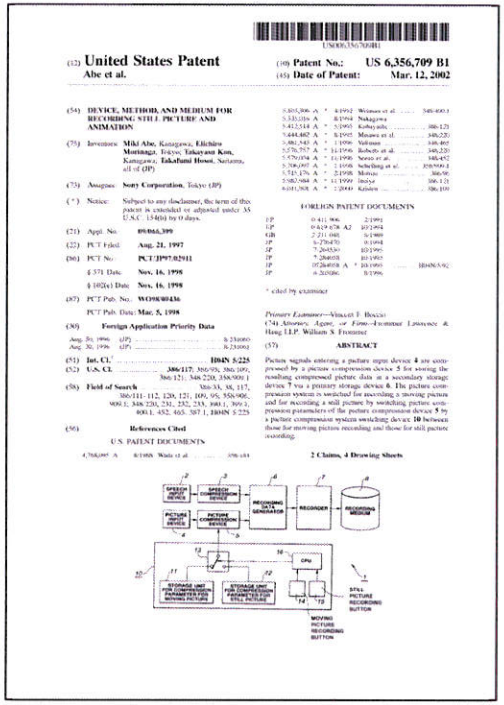
In order to achieve the first object, the recording method of the present invention used for a video recording apparatus that can record both moving and still pictures on a recording medium includes steps for recording moving pictures encoded with the use of the first encoding method when in recording moving pictures; and for recording still pictures encoded with the use of the second encoding method and other still pictures encoded by the first encoding method from single frame signals obtained from the still pictures when in recording still pictures. Furthermore, the video

'760 Patent, 2:50-57

’760 Patent: Cited Art Stored Still Image in Two Formats

- Claim rejected during prosecution based on *Abe* (US 6,356,709) in view of *Anderson* (US 6,512,548)

Abe (US 6,356,709)



(12) **United States Patent**
Abe et al.

(10) **Patent No.: US 6,356,709 B1**
(45) **Date of Patent: Mar. 12, 2002**

(54) **DEVICE, METHOD AND MEDIUM FOR RECORDING STILL PICTURE AND ANIMATION**

(75) Inventors: **Miki Abe**, Kanagawa, **Eiichiro Morinaga**, Tokyo, **Takayasu Kon**, Kanagawa, **Takafumi Hosoi**, Saitama, all of (JP)

(73) Assignee: **Sony Corporation**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/066,399**

(22) PCT Filed: **Aug. 21, 1997**

(86) PCT No.: **PCT/JP97/02911**

§ 371 Date: **Nov. 16, 1998**

§ 102(e) Date: **Nov. 16, 1998**

(87) PCT Pub. No.: **WO98/08346**

PCT Pub. Date: **Mar. 5, 1998**

(30) **Foreign Application Priority Data**

Aug. 30, 1996 (JP) 8-230080
Aug. 30, 1996 (JP) 8-230081

(51) **Int. Cl.**[7] **H04N 5/225**

(52) **U.S. Cl.** **386/117**; 386/95; 386/109; 386/121; 348/220; 358/909.1

(58) **Field of Search** 386/33, 95, 117, 386/111-112, 120, 121, 109, 95, 358/906, 909.1; 348/220, 231, 232, 233, 360.1, 369.1, 800.1, 452, 465, 387.1; H04N 5/225

(56) **References Cited**

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

* cited by examiner

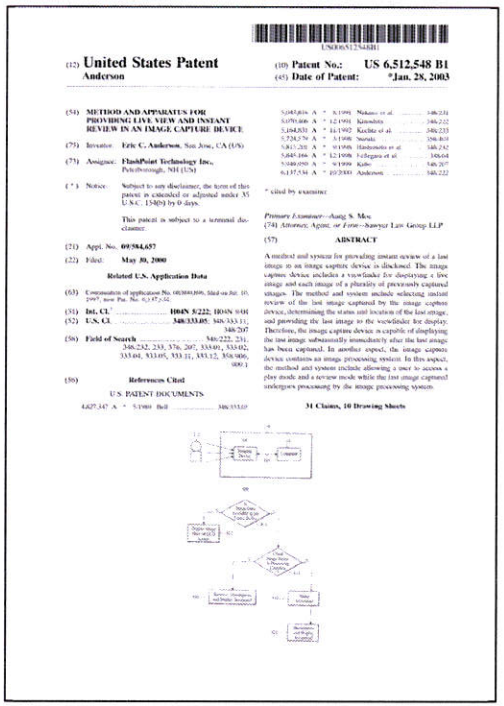
Primary Examiner—Vincent F. Boccio
(74) *Attorney, Agent, or Firm*—Frommer Lawrence & Haug LLP; William S. Frommer

(57) **ABSTRACT**

Picture signals entering a picture input device **4** are compressed by a picture compression device **5** for storing the resulting compressed picture data in a secondary storage device **7** via a primary storage device **6**. The picture compression system is switched for recording a moving picture and for recording a still picture by switching picture compression parameters of the picture compression device **5** by a picture compression system switching device **10** between those for moving picture recording and those for still picture recording.

2 Claims, 4 Drawing Sheets

Anderson (US 6,512,548)



(12) **United States Patent**
Anderson

(10) **Patent No.: US 6,512,548 B1**
(45) **Date of Patent: *Jan. 28, 2003**

(54) **METHOD AND APPARATUS FOR PROVIDING LIVE VIEW AND INSTANT REVIEW IN AN IMAGE CAPTURE DEVICE**

(75) Inventor: **Eric C. Anderson**, San Jose, CA (US)

(73) Assignee: **FlashPoint Technology Inc.**, Peterborough, NH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/584,657**

(22) Filed: **May 30, 2000**

Related U.S. Application Data

(63) Continuation of application No. 08/869,809, filed on Jun. 10, 1997, now Pat. No. 6,147,702.

(51) **Int. Cl.**[7] **H04N 5/222**; H04N 9/04

(52) **U.S. Cl.** **348/333.05**; 348/333.11; 348/207

(58) **Field of Search** 348/222, 231, 348/232, 233, 376, 207, 333.01, 333.02, 333.04, 333.05, 333.11, 333.12, 376.906, 900.1

(56) **References Cited**

U.S. PATENT DOCUMENTS

* cited by examiner

Primary Examiner—Aung S. Moe
(74) *Attorney, Agent, or Firm*—Sawyer Law Group LLP

(57) **ABSTRACT**

A method and system for providing instant review of a last image in an image capture device is disclosed. The image capture device includes a viewfinder for displaying a live image and each image of a plurality of previously captured images. The method and system include selecting instant review of the last image captured by the image capture device, determining the status and location of the last image, and providing the last image to the viewfinder for display. Therefore, the image capture device is capable of displaying the last image substantially immediately after the last image has been captured. In another aspect, the image capture device contains an image processing system. In this aspect, the method and system include allowing a user to access a play mode and a review mode while the last image captured undergoes processing by the image processing system.

31 Claims, 10 Drawing Sheets

’760 Patent: Cited Art Stored Still Image in Two Formats

- *Anderson* discloses saving a still picture in two still picture formats:
  - (1) a compressed image data (one still picture encoding method), and
  - (2) a screennail (another encoding method).

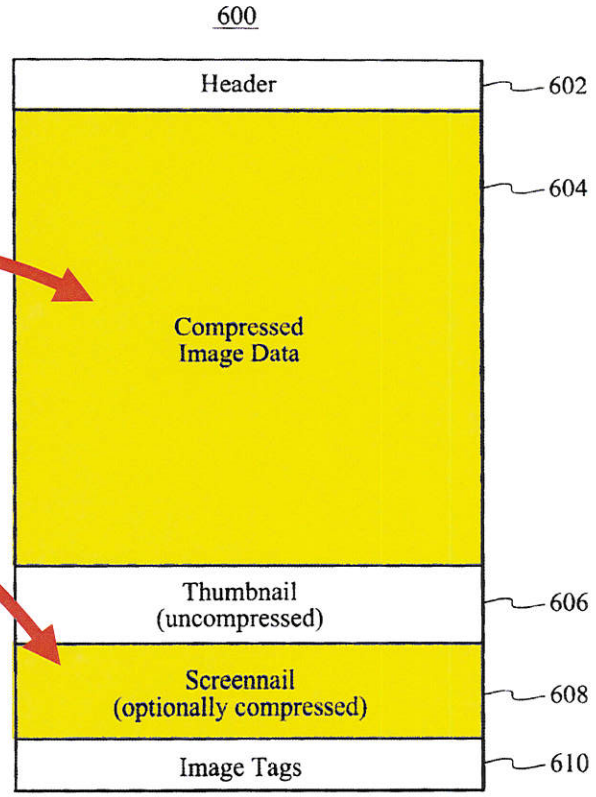


FIG. 5

U.S. Patent No. 6,512,548 “Anderson”, Fig. 5

'760 Patent: Contrary Position During Prosecution

- To overcome a rejection, the applicant distinguished *Anderson* by stating that their invention saved a still picture in MPEG and JPEG formats:

Furthermore, Anderson solely teaches recording still images, and two kinds of pictures, such as screennails and thumbnails. Applicant respectfully compares clarified Claims 1 and 2, and Anderson, as follows.

Claims 1 and 2	Anderson (see Fig. 5)
First still picture (MPEG)	X (no disclosure)
Second still picture (JPEG)	Compressed image data
A picture	Thumbnail
X (no dislosure)	Screennail

It is clear that Anderson doesn't disclose Applicant's "first still picture".

Therefore, clarified Claims 1 and 2 are clearly different from Anderson.

Ex. 15 (December 29, 2003 Amendment and Remarks in the File History for U.S. Patent No. 6,856,760) at 12

'760 Patent: Maxell Seeks a Broader Interpretation Now

- Maxell now argues that:

> language is clear. The first encoding method is one of potentially several encoding methods that may be used for encoding still pictures, for example JPEG, MPEG, or others, without any preferential order. *See* '760 Patent at 8:5-7, 8:9-11. The patent discloses that still pictures "may

Dkt. 95 at 32

- Maxell argues that the accused products record still pictures in two different still picture encodings: JPEG and RAW. Ex. 4 ('760 Infringement Contentions) at 3, 25-26.

Type	*Encoding/Decoding*	*Claim Term*
Still Picture	JPEG & RAW	**"second encoding method" (still picture encoding method)** **"first encoding method" (moving picture encoding method)**

'760 Patent: Consistent Usage

Am. Piledriving Equip., Inc. v. Geoquip, Inc.

- The Federal Circuit limited the construction of a claim term because the "consistent reference throughout the specification … ma[de] it apparent that it relates to the invention as a whole, not just the preferred embodiment."
- Limited construction of "eccentric weight portion" to "that portion of the counterweight that **extends either forward or rearward from the front or back face of the gear portion** such that it shifts the center of gravity radially outward from the gear's rotational axis."

Am. Piledriving Equip., Inc. v. Geoquip, Inc., 637 F.3d 1324, 1333 (Fed. Cir. 2011)

'760 Patent: Consistent Usage

Contentguard Holdings, Inc. v. Amazon.com, Inc.

- Court limited the construction of a claim term because "consistent, explicit disclosures … should be given effect in the Court's construction."
- "authorization object" means "**a digital work** that can be moved between repositories and that must be possessed in order to exercise a usage right."

Contentguard Holdings, Inc. v. Amazon.com, Inc., 2015 WL 8073722, at *27 (E.D. Tex. Dec. 4, 2015); *aff'd*, 2017 WL 2963555 and 2017 WL 2963556 (Fed. Cir. July 12, 2017)